

- (e) generating heat by the electronic device;
- (f) transferring heat to the coolant;
- (g) connecting a cooling conduit to the container;
- (h) forcing air or liquid through the cooling conduit.

16. (Twice Amended) A device for cooling electronics comprising:

(a) a container having a receptacle for receiving an electronic device, the container having an outer wall and an inner wall defining a chamber therebetween that is partially filled with a liquid coolant, wherein the receptacle is disposed between the electronic device and the chamber; and wherein the liquid coolant does not contact both the inner wall and the outer wall simultaneously; and

(b) a surface connected with the container for receiving a cooling conduit.

REMARKS

Claims 1-21 are pending in the application. Claims 5, 7-9, 12-15, and 21 are withdrawn from consideration. Claims 1-4, 6, 10, 11, and 16-20 stand rejected under 35 U.S.C. §§ 102 and/or 103. In addition, the Examiner has objected to the drawings. Claims 1, 2, 6, 10, and 16 have been amended as shown in the attached appendix. Applicants respectfully request reconsideration of the Examiner's rejections and objection.

DRAWINGS

The Examiner objected to the drawings on the basis that figure 1B, "which is a cross sectional view of figure 1A, does not disclose the cooling conduit (115) that is shown in figure 1A." Pursuant to 37 C.F.R. § 1.121(d), Applicants respectfully submit

the enclosed proposed drawing corrections of figure 1B in response to the Examiner's objections.

Two versions of the proposed drawing corrections are being submitted. The first, labeled "Version 1", reflects (in red) the presently proposed drawing corrections as well as the previously proposed drawing corrections to figure 1B submitted with Applicants' April 25, 2002 response to the Office Action mailed February 27, 2001. The second, labeled "Version 2", only reflects (in red) the presently proposed drawing corrections.

The Examiner's objection is addressed with the presently proposed changes shown in red. Applicants respectfully request approval by the Examiner of the proposed drawing corrections. No new matter has been added as these changes are supported in the specification.

SECTION 102 REJECTION

The Examiner rejected claims 1, 6, 10, 11, 16, 17, and 19 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,320,246 issued to Russell.

Claims 1, 6, 10, 11, 16, 17, and 19 include a limitation that the container has an "inner wall and an outer wall defining a chamber therebetween." Russell does not disclose a container having such an "inner wall" as stated in the claims. Instead, Russell discloses (figures 1, 2, and 7) a container composed of a "cylindrical outer shell or tube" (1) that is substantially "closed at both ends". (See, e.g., Russell at col. 3, lines 44-55.) While Russell describes a cooling conduit "disposed within" the container, the conduit does not constitute an "inner wall" of the container. (See, e.g., Russell at col. 4, lines 5-25.) Accordingly, Applicants respectfully request that the Examiner remove his § 102 rejection of claims 1, 6, 10, 11, 16, 17, and 19.

SECTION 103 REJECTION

The Examiner rejected claims 1-4, 6, 10-11, and 16-20 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,529,115 issued to Paterson in view of U.S. Patent No. 5,216,580 issued to Davidson et al. and U.S. Patent No. 3,603,382 issued to Paine et al.

Claims 1-4, 6, 10-11, and 16-20 include a limitation that the container has an “inner wall and an outer wall defining a chamber therebetween” and a “surface” connected with the container “for receiving a cooling conduit.” Paterson, Davidson, and Paine do not disclose, either alone or in combination, a container having both an “inner wall” and “surface” as recited in the claims. Paterson, for example, instead discloses (figures 1, 2, and 3) a container composed of an outer wall and end caps (28). While Paterson describes what he terms a “cooling conduit 24 positioned within” the container, the conduit does not constitute an “inner wall” of the container. (See Paterson at col. 4, lines 42-43.) Davidson and Paine, furthermore, make no disclosure concerning a cooling conduit and, thus, do not disclose a “surface” connected with the container “for receiving a cooling conduit.”

Accordingly, Applicants respectfully request that the Examiner remove his § 103 rejection of claims 1-4, 6, 10-11, and 16-20.

CONCLUSION

In conclusion, Applicants believe they have overcome each of the rejections and the objection. The application is therefore in condition for allowance and early notification of allowance is respectfully requested. If, for any reason, the Examiner believes that the amendments and remarks do not put the claims in condition for

allowance, the undersigned attorney can be reached at (312) 245-5393 to resolve any remaining issues.

A marked-up version of the changes made to the claims by current amendment is attached (Appendix A).

Respectfully submitted,


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APPENDIX A

VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Twice Amended) A device for cooling electronics comprising
 - (a) a container having a receptacle for receiving an electronic device, the container having an inner wall and an outer wall defining a chamber therebetween that is partially filled with a liquid coolant, wherein the receptacle is disposed between the electronic device and the chamber; [the container also being capable of receiving a cooling conduit;]
 - (b) a wick structure positioned within the container; and
 - (c) a surface connected with the container for receiving a cooling conduit.
2. (Twice Amended) The device for cooling electronics of claim 1 wherein the wick structure comprises a first wick structure lining the inside of [an] the outer wall, a second wick structure lining the inside of [an] the inner wall, and a communicating wick structure that periodically connects the first and second wick structures.
6. (Amended) The device for cooling electronics of claim 1 wherein the surface is [container has a first wall and a second wall,] defined by and integral with the [second] inner wall [defining an annular region capable of receiving a cooling conduit].
10. (Twice Amended) A method for cooling electronics comprising:
 - (a) providing a container having a receptacle for receiving an electronic device, the container having an inner wall and an outer wall defining a chamber therebetween [and having an inner wall and an outer wall]; wherein the container is connected to a surface for receiving a cooling conduit;

APPENDIX A

- (b) filling the container partially with a liquid coolant such that the liquid coolant does not contact both the inner wall and the outer wall simultaneously;
- (c) providing an electronic device;
- (d) connecting the electronic device to the receptacle of the container, wherein the receptacle is disposed between the electronic device and the chamber;
- (e) generating heat by the electronic device;
- (f) transferring heat to the coolant;
- (g) connecting a cooling conduit to the container;
- (h) forcing air or liquid through the cooling conduit.

16. (Twice Amended) A device for cooling electronics comprising:

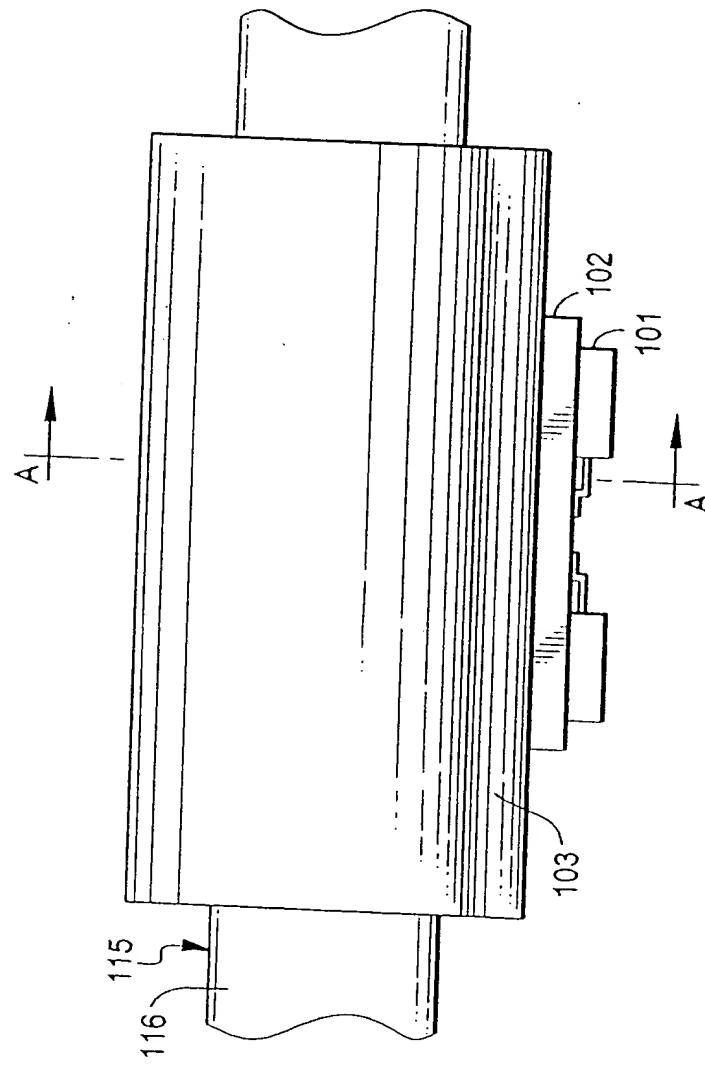
- (a) a container having a receptacle for receiving an electronic device, the container having an outer wall and an inner wall defining [an annular] a chamber therebetween that is partially filled with a liquid coolant, wherein the receptacle is disposed between the electronic device and the chamber; [the container having an outer wall and an inner wall,] and wherein the liquid coolant does not contact both the inner wall and the outer wall simultaneously; and
- (b) a surface connected with the container for receiving a cooling conduit.



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Filed: April 6, 2001
For: EVAPORATIVE COOLING DEVICE AND METHOD

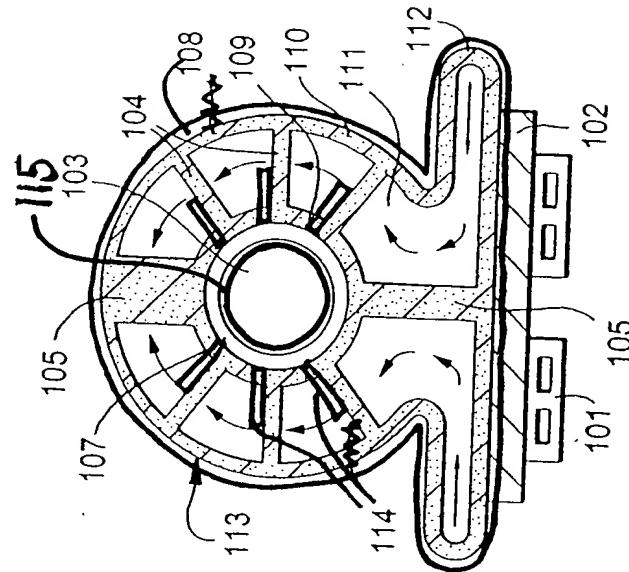
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FIG. 1A



VERSION 1

FIG. 1B





INVENTOR(S): Jairazbhoy et al.
Filed: April 6, 2001
For: VAPORATIVE COOLING DEVICE AND METHOD

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Version 2
FIG. 1B

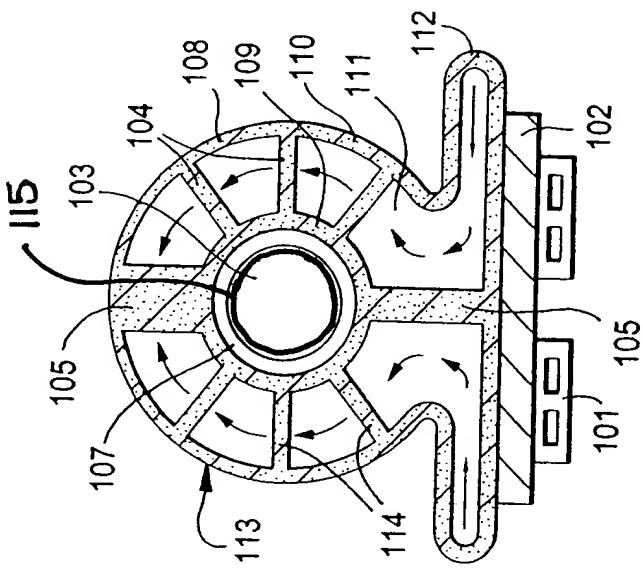


FIG. 1A

